

DOCUMENT RESUME

ED 163 588

EA 011 065

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 TITLE Survey of Delaware Superintendents' KPJ.
 PUB DATE May 78
 NOTE 24p.
 EDRS PRICE MF-\$0.83 HC-\$1.67 Plus Postage.
 DESCRIPTORS Decision Making; *Educational Research; Elementary
 Secondary Education; Questionnaires; Research Needs;
 *Research Utilization; *School Superintendents;
 Superintendent Role; Surveys
 IDENTIFIERS Delaware

ABSTRACT

Since school superintendents' use of research findings appears to be poor, this study tried to determine superintendents' attitudes toward and utilization of educational research. A questionnaire was sent to 40 superintendents and deputy and assistant superintendents in Delaware. Return rate was 57.5 percent. Findings indicate that superintendents are capable of understanding and using the findings of educational research. Most use research reports for general background rather than for making a specific decision. The most popular source of research information comes from two journals--"Phi Delta Kappan" and "American Educational Research Journal." Almost half believe that political pressure rather than educational research is the prime motivator for educational change. The superintendents complain that research results are presented in poor form to aid decision-making. Researchers concluded that educational research will be used by superintendents only when it increases their power, and that they are seldom in a position to make decisions based on the fine points of research data. Courses and inservice training are needed to show use of research as an administrative tool. Furthermore, the person most likely to be in a position to use research findings is a supervisor, director, or principal rather than a superintendent. (Author/JM)

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SURVEY OF DELAWARE SUPERINTENDENTS' KPU

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May, 1978

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TO THE EDUCATIONAL RESOURCES
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Lack of research utilization seems to be perpetuated at all levels in the educational organization. The Superintendents' role in this gap is investigated through survey procedures as the first step in determining whether the usual reasons given for neglecting research results apply equally across all levels of organization.

SURVEY OF DELAWARE SUPERINTENDENT'S KPU

Background

Applications of educational research findings are not made in any reasonable proportion to the amount of information available. Although much has been written about the problems of formal research dissemination and utilization, the explanations for the poor linkage between research production and research utilization usually condense into "practical" reasons and "psychological" reasons. The former category would include the time gap between research and report, the unaccessibility of research results and the barrier presented by the technical language and statistical tables¹. Psychological reasons for not using research results include resistance to change, the preference for first-hand information and the lack of collaborative relations among researcher, linkers, and ultimate users.

The consumer of educational research has stereotypically been assumed to be the classroom teacher, but as Jackson and Kiesler³ point out the view of research consumer should be broadened to include administration and all kinds of educational specialists. The influence of the role on research use has not been clarified but it seems reasonable to question whether the usual reasons given for ignoring research results, apply equally across all levels of organization.

A common criticism of school people against research use is that it does not address school problems. This implies that research findings are expected to aid decision making or problem solving. While the teacher is certainly a key

person in the change process in the school, the decision making which would be guided by research more likely is made by those in other roles. Thus, the reasons proposed for the research/practice gap when teachers are seen as the consumer may not be the same if an administrator was considered to be the consumer of research results. At the very least, the administrator and teacher will have differing decision-making information needs.

Decision making draws on objective information (e.g., research results) but that objective data does not stand in isolation from interpersonal and organizational influences on the decision ⁴. Although Havelock ⁵ and others have written much about formal research dissemination and utilization, very little has been said about the influence of the consumer's role on, for example, the communication or linkage between researcher and user. Therefore, as part of a three-level description of the role of the educator on research utilization, the Center for Educational Leadership at the University of Delaware conducted an investigation of research knowledgeability, attitudes and use by all public school superintendents in Delaware.

Delaware is a small state with 26 districts, varying from two urban districts with 15,000 students to several rural districts in the 2000-4,000 pupil range. The districts reflect all the problems evident in American schools, yet they have exceptional opportunities for internal communication, coordination and cooperation because of this smallness.

Survey

A four-page mixed format questionnaire was sent to every administrator whose title contained the word "superintendent"-- superintendents, deputy superintendents, assistant superintendents. The total number in this group was 40. After a telephone follow-up, the return rate was 57.5%.

As most of the districts in New Castle County are involved in a complicated court-ordered desegregation and redistricting program, it seemed possible that the return rate might be lower for these districts. However, the ratio of returns for the desegregation areas was not significantly lower than those for the rest of the state (50% vs 55%).

The questionnaire, composed of open-ended response items, scaled opinion items, check lists and ranked responses, was prepared to answer the following questions:

1. Are superintendents knowledgeable about research terminology?
2. How do superintendents perceive they use educational research?
3. How do they obtain research information?
4. Is research seen as a credible process?
5. What procedures supply the most credible information for decision making?
6. What perceived changes would make research more usable?
7. What position in the district has the responsibility for KPU?
8. What is the level of interest in increasing research competencies through University courses or workshops?

Findings

There is a prevalent assumption that educators do not generally utilize research in their professional roles due to lack of research knowledge and skills and/or positive attitudes towards research. The findings of this study were examined according to criteria selected by Adams⁶ as necessary for effectively interpreting and utilizing research findings to discover if these superintendents have (1) the competencies necessary for research use and, (2) the mo-

tivation. The strength of these competencies and motivation would relate to how objective information might balance say, political influences, in administrators' decision making.

A command of the research vocabulary is an elementary but necessary competency for the consumer/synthesizer of research. As unobtrusive indicators of this ability, the KPU questionnaire asked the superintendents to informally describe what they mean by "educational research" and to select from a list those criteria which they felt described "empirical data". Their definitions of educational research were broad and non-technical, generally emphasizing a search for information or gathering and interpreting educational data. The criteria they selected for "empirical data" had low consensus: 17% reported that they would consider it "empirical" data if it was based on competent observation; another 17% believed that empirical data should be based on experimental or quasi-experimental designs, 16% said the criteria depends on the source of the information and 14% believe that "empirical data" would be based on practical experience.

These percentages might have occurred by random selection from the seven listed alternatives indicating that the respondents were guessing, or it may be indicating that the listed alternatives were not discriminative.

Although these choices produced a flat distribution rather than a close agreement, it appears that, on the whole the meanings are compatible with those held by research producers. This might be expected in view of the number of research oriented courses taken by these administrators. They reported on the average six courses in measurement, design, statistics, evaluation and/or research methods. It can be speculated that these courses were probably taken several years ago as part of their training because the typical superintendent in this sample has been in administration over 15 years, with a range of 8-31

years. Less than one-half of the superintendents indicate an interest in increasing their research competencies through courses or workshops (41%). However, those who are interested in more background show an interesting characteristic to be mentioned later.

Competency in synthesizing research results and ultimately initiating change based on research findings was probed by open-ended questions asking for examples of projects in which they have used research in the last two years and, overall, how often they use empirical data in their decision making.

Thirty-three percent say they use empirical data "often" for decision making, 56% say they use it occasionally and 11% say "seldom". Curriculum adjustments or curriculum development accounted for 50% of the examples of research use given; twenty-five percent mentioned financial decision and/or systems management, and 13% were of staff evaluation. This open-ended question was cross-validated by a check list offering possible uses for data based decisions. The results here were: 47% used empirical data for program evaluation or change; 15% for staff evaluation; 21% for staff development and 11% for budget decisions. Less than 4% of the decisions were about students directly.

Seventy-eight percent of the superintendents say that the way they typically use the results of research is to provide background information rather than as the basis for a specific decision.

Another task necessary for research use is that the researcher must be able to obtain appropriate information about an area to be researched or a phenomena to be evaluated. The Delaware Superintendents were asked what process they found to be most effective for them for acquiring specific data. Forty-five percent would go to the State Department of Public Instruction for a report or

a literature search from ERIC; 18% would check with someone at an institution of higher education, and 16% would conduct a study of their own.

Effective communication between the researcher and the consumer, usually occurs through a written report. Berger and Andolina⁷ found that the general information sources most used by superintendents across the country were, in decreasing order of their importance, journals, periodicals and bulletins. Under the assumption that superintendents read what they feel will give them the most useful information, they were asked to choose from a list of ten educational publications the ones they read more than twice a year and to add others that they find useful that were not listed. The results are as follows: 83% of the superintendents read the Phi Delta Kappan; 56% read American Educational Research Journal; 50% read the Bulletin of the Association of Secondary School Principals (perhaps many superintendents are former high school principals); 28% read School Review; 28% read Psychology Today. All others are read by less than 16% of the superintendents in this sample. The average superintendent reads four educational journals.

It is doubtful that the educator will even bother to read research findings, unless he/she views research as a useful and even necessary step in the development of sound educational practices. Research must be seen as a credible process. The superintendents' survey probed the credibility of research usefulness with three separate questions. The first question examined perceived research value in demonstrating educational needs. Forty-six percent of the superintendents believe educational needs usually are recognized through political expediencies; 31% from observation and political reports, 23% from formal needs assessments. When asked how educational research fits into the recognition and response to needs, 39% of the subjects volunteered "not at all"; 27% see it used

for formative evaluation and 15% believe it can "show the way". (This was a free response question).

There is a curious relationship between perception of how useful research is in recognizing and meeting educational needs and the perception of research influence on the superintendents' present job performance. Those who believe that education's needs are recognized and responded to through "crises, political pressure, power structure" are those who report the influence of research on their present job performance significantly higher than those who see that educational needs are recognized and responded to through "needs assessments, data from DPI, and collection of specific information and data". ($t=4.15$, 19 df, $p<.001$).

Further probes of perceived research influence revealed that 39% of the superintendents say they often look at research reports for confirmation of their opinions, 23% report they do this occasionally and 27% say they never do. When asked what areas of education they believe have been most influenced by research findings, 37% say curriculum, 22% say "none" and 22% say school finance and 17% mention evaluation.

What procedures were seen by the superintendents as the most credible sources of information for their own decision making? The subjects were asked to rank eight kinds of information in terms of how important each would be in their decisions to adopt a particular educational innovation. The results are summarized in Table I. For these 23 superintendents, the effect of the "innovation" on standardized test scores and on student school grades are tied for the most believable source of information, and the results of the teacher questionnaire is third most important, followed by the principals' opinion. The least credible kinds of information are endorsements by a good friend or by a professional educator, in that order.

This faith in standardized test results is similar to that reported by Murray (1970) for educational psychology professors at the University of Minnesota. They too ranked test results as their top choice while a group of junior high school teachers listed it 5th out of 8 positions. However, it is not clear whether this should be interpreted to mean that superintendents' cognitive styles are more like university professors than like junior high school teachers or whether the increased emphasis on standardized testing since 1970 has effected all levels of school personnel. This ranking task will be given to other groups of school people in this area at this time to remove this confounding.

An additional criterion for credibility as reported by Adams is that the research have local practical applications. Fifty-six percent of these superintendents report that after they read educational research reports they "often" think about how to relate the report to their own school and work; 33% say they do this occasionally, and 6% report "seldom". Research reports often trigger additional questions for 50% of the superintendents and occasionally do this for 39% of the respondents. They volunteer that the changes in educational research that would make it more useable would be (1) to make it more practical, (2) adapt findings to school problems, and (3) make well-written summaries easily available.

The present influence of research on the job is seen as slight to moderate by 59% of the respondents, the percentage who see the future influence as slight to moderate decreases to 50%. (See Table II) However, the percentage who see research influence as "high" increases significantly from present to the future—17% vs 28%. This is a statistically real perceived change in future influence. ($t=2.21$, $df=21$, $p < .04$).

The correlation between perceived future importance of research and interest in increased preparation through courses and/or workshops was positive and strong (.83).

In districts where the responsibility for educational KFU is assigned to any particular position, the superintendents believe that the duties usually belong to the directors of instruction or curriculum or, occasionally to an assistant superintendent.

Conclusions

Although a primary focus of this study is to examine superintendent's knowledgeability and attitudes toward research in terms of several competencies considered necessary for effective research utilization, the major interest is to identify role-related influences on superintendents research utilization.

According to the indicators in this survey, the respondent superintendents have adequate competencies in research vocabulary and ability to synthesize research findings for practical application but these are at a level appropriate to their role as manager rather than to a role of technician or specialist. Their term definitions were either stilted or vague -- not clear and to the point -- and of the examples they gave of research applications, 50% were "curriculum development" which reflects a lower level of decision-making than to be expected from the top district administrator. Or stated more positively only a little over a third of the decisions (finances, staff evaluation) seem to be those appropriate to the superintendents' role.

The preponderance of their use of research to provide a background of information rather than as data for specific decision may reflect (1) the research is not acquired at the critical time, (2) they are aware that objective information is only a partial basis for a decision and/or (3) their role may require a broad, general information base rather than specific details.

It may also be a response to role definition that only 14% of the superintendents report they would conduct their own studies to gather data for a decision (keep in mind they average six courses in research preparation topics). Perhaps, they are willing to use second or third-hand information, not only because it is more accessible but also because "conducting studies" is not included in present-day Delaware superintendents' role description, as it would be in, say a university professor. (The professor is not considered a very credible source of information or which to base adaptation of an innovation, by the way).

Their source of general information comes through as an average of four educational journals. Research exposure fares quite well in the publications mentioned. The most favored journal, PDK is research "conceived" and the second, AERJ, is formally research oriented. The list might be viewed as a ranking of the stature of the publications as many journals were added to the original list of ten which contained half research and half non-research journals. However, the overall consistency of the top ratings did not vary. Although the first or second choice of a superintendent may be predicted, there is considerable variation in the third and fourth selection. This appears to verify that PDK and AERJ actually are the most "popular" professional publications to those superintendents.

The top choices for credible information sources for a specific decision both are instances of "behaviorally demonstrated empirical change" -- changes in standardized test scores and in student grades after an educational innovation. It seems that this may be a response to accountability pressures rather than as a response to research methodology because school grade change has seldom been considered to be a reliable, valid indicator of student learning.

Although pressures for research use are reflected as in the example above, the credibility of research stability appears to be generally very low. Almost half believe that political pressure is the source of change and that educational research is not at all useful in identifying and responding to needs. It can be speculated that they wish it were because at least two-thirds look to research at least occasionally for confirmation of their opinions. However, twenty-two percent believe that educational research has had no influence on education (although this may be exaggerated for a dramatic effect because all these subjects checked "moderate" to the influence that research has on their present job performance).

The superintendents complain that research results are presented in poor form to aid decision making. They want it to be school oriented (but do not acknowledge a responsibility for schools to identify the problems they want researched) and available in "readable, summary form." (Again, indicating an interest in only the "big picture"). These administrators reported more graduate level preparation in research techniques and philosophy than was expected and if this material was retained, they should have fair ability to read and interpret research in detail as well as in summary. Their problem may be, of course, the time squeeze in their role.

The number of courses taken is highly related to their perceived future impact of educational research. These are the subjects who report that educational needs and responses flow from political pressure and also are the superintendents (40%) who are interested in more research preparation through courses and workshops. Perhaps, these superintendents who have had a higher exposure to research orientation are particularly sensitive to non-objective political pressures and are looking to more research competency to increase their power to counter the political pressures.

Several indicators point to a pattern between role power and research use. The majority of superintendents reflect an attitude that they don't have to defend their decisions with a research base but that an acquaintance with general research findings is desirable for social accountability -- to be "current".

Implications

Research will only be used by superintendents when it increases their power.

The differentiation of roles in education logically call for a variety of purposes to be served by KPU. The Superintendent, due to the political nature of his job and the fact that he is removed from the teaching/learning process, is apt to use research only when it increases or helps maintain power: i.e., control, prestige, authority, image, dominance, communication, "one-upsmanship" (expertise), etc.

Research projects typically provide information about the teaching/learning experience and Superintendents need data that is more pertinent to organizational and community matters. This implies a greater need for action research projects utilizing such things as data-feedback devices that are generated in and for the local educational community. This research (KPU) would enhance the superintendents power position because he/she would be in a position of having knowledge about the organization or community that might not be available to others. The superintendent is in the unique position of authority which provides an overview of the needs of the district and thus can discriminate the KPU most pertinent to his/her views.

Superintendents are seldom in the position to make decisions based on the "fine points" provided by research data.

Superintendents by role identification and role expectations are generalists. Their duties vary widely in scope from calming parents to lobbying for increasing funding. Very seldom does existing research fit their specific needs on detailed questions (decisions) of daily operations. Decisions tend to be based on political as logical considerations and as much on instinctual as analytical and as much spontaneous as planned. Superintendents deal in large numbers, "total counts", political arenas, sensitive controversies, hectic schedules, and suffer from personal stress. The final conclusions of research dominated by traditional limitations of methodology are simply too limited to be of frequent or large scale use. Hence, the superintendents' inactivity relating to KPU.

Perhaps, the Superintendents' stance regarding KPU is to insist that subordinates use it to maximum purpose as they implement district goals.

Sympathy with research utilization is related to amount of the superintendent's research-oriented course work.

The strong association in these findings between amount of course work in research preparation and sympathy for research utilization has a number of interesting implications. First, it appears that one prin-

ciple objective in most college courses in research has been met, viz, improved attitudes toward research. Further, the long term residual of some of these courses apparently is not as negative as rumor has it. That is, the positive relationship of research exposure and research sympathy might not be expected in view of the anxiety expressed by many educators toward the research courses required in many graduate programs and the perceived trauma of thesis or dissertation research.

Actually, this course-exposure/research sympathy association may not be causally related. Both effects could be concomitants of some other condition. For example, an attitude of professional responsibility would lead the administrator to keep abreast of knowledge and information in the field. Participation in research courses and interest in research utilization may be two manifestations of this attitude of professional responsibility.

Courses and in-service training need to be developed to show how research can be used as an administrative tool.

The finding that over forty percent of these superintendents are interested in further training in research utilization clearly suggests that appropriate courses need to be developed to show how research can be used as an administrative tool.

The important word here is "appropriate". Administrators need a more relevant consumer-oriented content than taught in graduate school. While these particular administrators have a general background in research methods, they were probably prepared by educational researchers

reared on the experimental model of research inherited from psychology. In this paradigm applied or decision-oriented research typically would have second class status.

Fortunately, more and more researchers are acknowledging that applied research is respectable, primarily because there are so many problems which need to be answered in education.

But, the intensity of this need for answers indicates a major goal of an action-oriented research course. The general expectation is that research should supply the definitive solution to a problem. This is a stereotypical expectation that should be modified because, actually, research does not work that way. Administrators need to be convinced that educational research does change practice significantly, although perhaps slowly and unobtrusively.⁸

The primary contact for research adaptation is probably supervisors, directors or principals rather than the superintendent.

Middle managers are really the target group for research efforts. They have the time, interest and responsibility to manage KPU. As a matter of fact, one could argue that KPU should be their primary function. We have discussed the problems connected with Superintendents' KPU. At the other end of the hierarchy are the teachers. Many teachers either do not understand much of the research as reported in publications or they do not focus their attention on research because (1) it does not apply to the daily needs of children, (2) their concern is limi-

ted to maintenance duties as opposed to innovation. With either end of the spectrum occupied with other matters, that leaves the supervisor/building administrator type left with the KPU problem. The implications are that more research should be directed toward usage by middle managers. The KPU process must include a heavy emphasis on the U (utilization) component which unmistakably requires involvement and communication with and for supervisors and principals.

University professors/researchers should consider projects that are directed toward school needs and reported in useable forms.

The superintendents in this study volunteer that research is not directed towards their needs nor is it reported in forms that they can use. A major implication of the first of these suggestions is that practitioners and researchers must have closer contacts for their effects to coincide toward a mutual goal. One method by which this partnership approach can be done is to conduct educational research in schools rather than on schools. As Larry Barber⁹ explains this distinction, "While the methodology for research in schools is usually the same as research on schools, the purpose is very different. Research on schools is considered a search for truth while research in schools is a search for defensible, objective, reliable data for decision-making."

Of course, only a small portion of educational research will be directed this way, but the increased respectability of action-research makes the work publishable and supplies the rewards to university based

researchers. At the same time, the participation of school people in research interests close to them may increase their patience with research projects which have less apparent practical utility.

This partnership will also alleviate the problem of interpreting the research report. Presumably, all participants will find the results useable.

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T A B L E I

Credibility of Information Sources for Adoption of Innovation

	Principal's Report	Personal Observation	Change in Student Grades	Logical Considerations	Teacher Questionnaire	Educator's Endorsement	Colleagues Endorsement	Change in Standardized test scores
Final Ranking	4	6	2	5	3	7.5	7.5	1
Mean Rank	4.42	4.54	2.60	4.29	3.86	6.09	6.09	2.56
SD	2.17	2.02	1.88	2.70	1.50	2.14	1.50	1.92

N=21

T A B L E I I

Perceived Importance of Research

	Slight	Moderate	High	Critical
To Present Job Performance	18%	41%	17%*	9%
To Future Job Performance	5%	45%	28%	9%

* $t=2.27$, $df\ 19$, $p<.04$

on individual ratings